

We claim:

1. An automated synthesis apparatus (1) for carrying out chemical reactions with reflux cooling comprising one or more reactor modules (2) each having one reactor (3), one or more feed vessels (4) each for a liquid reactant or reactant mixture and also one or more metering and feed devices (5) for the introduction of liquid reactant or reactant mixture from the feed vessel (the feed vessels) (4) into the reactor (3), wherein each reactor (3) has a lid (13) which is configured as a hollow body and encloses a hollow space (14), with an inlet line (15) and an outlet line (16) for a heat transfer medium into or out of the hollow space (14) and with one or more through-lines for introduction of each liquid reactant or reactant mixture into the reactor (3).
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2. An automated synthesis apparatus (1) as claimed in claim 1, wherein the lid (13) is flat and is preferably configured as a flat disk.
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3. An automated synthesis apparatus (1) as claimed in claim 1 or 2, wherein the inlet line (15) for the heat transfer medium projects into the hollow space (14) of the lid (13) and/or the outlet line (16) for the heat transfer medium ends flush with the interior wall of the lid (13) enclosing the hollow space (14).
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4. An automated synthesis apparatus (1) as claimed in any of claims 1 to 3, wherein the through-line(s) (16) projects (project) beyond the lower edge of the lid (13) into the interior space of the reactor (13).
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5. An automated synthesis apparatus (1) as claimed in any of claims 1 to 4, wherein the lid (13) has an increased cross section at its underside and at its upper side.
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